DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 28TH BOMB WING (ACC)
ELLSWORTH AIR FORCE BASE SOUTH DAKOTA

AUG 0 5 2010

MEMORANDUM FOR DISTRIBUTION F & T

FROM: 28 BW/CC

SUBJECT: Land Use Restrictions at Environmental Restoration Sites

1. In 1990, Ellsworth AFB was placed on the Environmental Protection Agency's (EPA) National Priority List because of soil and ground water contamination caused by past work practices. In 1992, a Federal Facilities Agreement was signed with the EPA and State Department of Environmental and Natural Resources that divided the base into 12 operable units.

2. The attachments summarize the existing restrictions and hazards on each of the 12 operable units on base. A copy of the original Continuing Order with a map indicating the location of each operable unit on base is at attachment 1. Attachment 2 summarizes the specific restrictions of each operable unit. Attachment 3 delineates the requirement for construction waivers at all restoration program sites. Any violation of these restrictions subjects the base to fines and stipulated penalties.

3. Please be advised that the attached order continues to be in effect and must be strictly adhered to by all Ellsworth AFB personnel and contractors.

4. If there are any questions, please contact Mr. Jerry Styles at extension 385-2677.

JEFFREY B. TALIAFERRO, Colonel, USAF
Commander

Attachments:
1. 28 BW/CV Memo, 27 Aug 97
2. Operating Unit Restrictions
3. Construction Waiver Memo, 6 Dec 96
4. OU8 Action Plan

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 28TH BOMB WING (ACC)
ELLSWORTH AIR FORCE BASE, SOUTH DAKOTA

27 AUG 97

MEMORANDUM FOR DISTRIBUTION F & T

FROM: 28 BW/CV

SUBJECT: Continuing Order, Land Use Restrictions at Environmental Restoration Sites

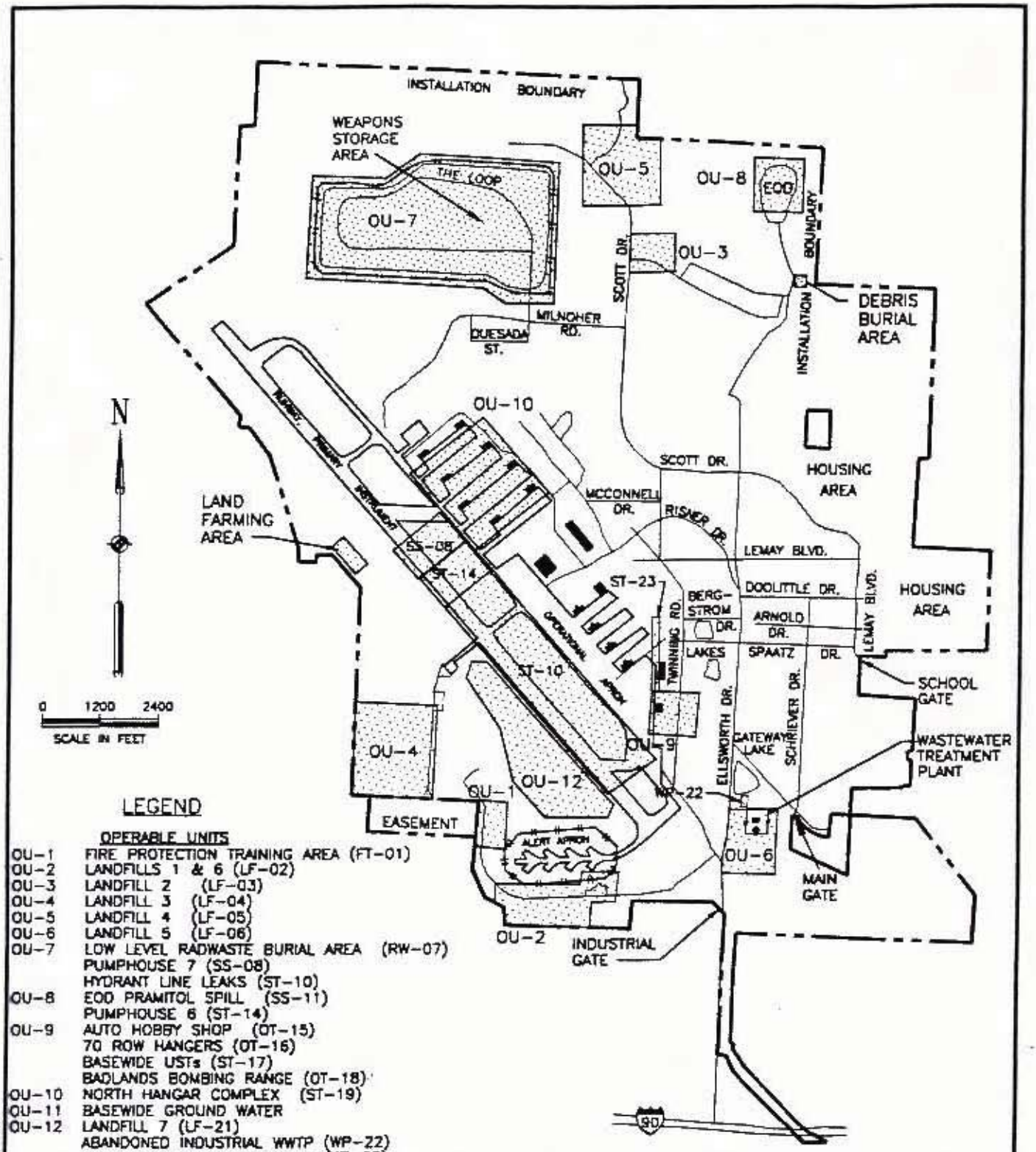
1. On 24 January 1992, the United States Air Force, the State of South Dakota, and the Environmental Protection Agency (EPA) entered into a Federal Facilities Agreement governing activities associated with the environmental restoration of Ellsworth Air Force Base. As a part of that agreement, 12 geographic areas of environmental contamination, known as Operable Units, were identified for remediation. Cleanup and installation of ground water treatment systems for those sites will be complete this construction season. Because correcting the environmental impacts of the past will take many years, the integrity of these Operable Units must be protected.

2. The attached figure indicates areas where cleanup activities have taken or are taking place. Specific detailed information concerning the sites is available from the Ellsworth Installation Restoration Program (IRP) office. Cleanup activities and future land-use practices within the Operable Units are stated in enforceable Records of Decisions which limit and, in some cases, forbid construction activity. The IRP office must be consulted prior to construction within an Operable Unit. The IRP office will review any proposed construction activity and the Record of Decision to determine if impact to cleanup activities or to existing contaminated media will occur. The EPA, the state, and Air Combat Command may be consulted to help determine the feasibility of projects. Proposed construction activities will be accepted, accepted with modifications, or denied.

3. Failure to comply with the above restrictions could place the Air Force at risk for additional cleanup work and enforcement actions by the State of South Dakota and the Environmental Protection Agency. Modifications to this continuing order can only be made with concurrence from the regulatory agencies. Codification into an Air Force Instruction is pending. Additional information is available from Mr Dell Petersen at 5-2675.

Anthony M Beat
ANTHONY M. BEAT, Colonel, USAF
Vice Commander

Attachment:
Site Location Map



LEGEND

OPERABLE UNITS

- OU-1 FIRE PROTECTION TRAINING AREA (FT-01)
- OU-2 LANDFILLS 1 & 6 (LF-02)
- OU-3 LANDFILL 2 (LF-03)
- OU-4 LANDFILL 3 (LF-04)
- OU-5 LANDFILL 4 (LF-05)
- OU-6 LANDFILL 5 (LF-06)
- OU-7 LOW LEVEL RADWASTE BURIAL AREA (RW-07)
  PUMPHOUSE 7 (SS-08)
  HYDRANT LINE LEAKS (ST-10)
- OU-8 EOD PRAMITOL SPILL (SS-11)
  PUMPHOUSE 6 (ST-14)
- OU-9 AUTO HOBBY SHOP (OT-15)
  70 ROW HANGERS (OT-16)
  BASEWIDE USTs (ST-17)
  BADLANDS BOMBING RANGE (OT-18)
- OU-10 NORTH HANGAR COMPLEX (ST-19)
- OU-11 BASEWIDE GROUND WATER
- OU-12 LANDFILL 7 (LF-21)
  ABANDONED INDUSTRIAL WWTP (WP-22)
  ABANDONED WWII POL SYSTEM (ST-23)

ELLSWORTH AIR FORCE BASE

ELLSWORTH AFB
RAPID CITY, SOUTH DAKOTA

SITE LOCATION MAP

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FIGURE:
		STAFF		AS SHOWN	OCT 95	60378.95	3-1

DRAWING NAME: F:\HORIZONS\NEW\MAP\BCWELL1
DATE: 06/21/1995 TIME: 16:01

Ellsworth Operable Units

OU-1

The selected alternative, source area soil and ground-water treatment, includes the following major components:

- Continued operation of the interim remedial action (IRA) which consisted of contaminated ground-water removal, soil vapor extraction (SVE), and treatment
- Installation of additional SVE wells within the historical burn-pit area to be added to the existing IRA SVE system;
- Removal of contaminated ground water using additional ground-water wells and collection trenches to be added to the IRA ground-water recovery system
- Treatment of ground water at the existing IRA treatment plant
- Institutional controls for the area
- Long-term monitoring
- Long-term operation and maintenance of equipment

OU-2

For Landfill No. 1, the selected alternative, an earth cover and institutional controls, includes the following major components:

- Constructing an earth cover, capable of sustaining perennial vegetation, over those areas of the landfill that are not adequately covered. Filling in low areas and grading the entire landfill area to provide for positive drainage off the site
- Institutional controls for the landfill area
- Long-term ground-water monitoring
- Long-term maintenance of soil cover
- Realignment and lining of the storm-water channel

For Landfill No. 6, the selected alternative, institutional controls, includes the following major components:

- Institutional controls for the landfill area
- Long-term ground-water monitoring
- Long-term maintenance of existing cover

OU-3

The selected alternative, capping, includes the following major components:

- Placing a soil cover capable of sustaining perennial vegetation, over the landfill area
- A pre-design study to examine the need for landfill gas control measures
- Institutional controls for the landfill area
- Long-term ground-water monitoring, and long-term maintenance of soil cover

OU-4

The selected alternative for the landfill, soil cover, includes the following major components:

- Institutional controls for the landfill area
- Placing a soil cover capable of sustaining perennial vegetation over the landfill area
- Landfill gas monitoring and passive collection system, as necessary
- Long-term monitoring and maintenance

The selected alternative for the ground water, pump and treat, includes the following major components:

- Continued operation of the interim remedial action (IRA) which consists of removal and treatment of contaminated ground water
- Installation of recovery trenches and/or additional extraction wells to be added to the existing IRA ground-water recovery system
- Treatment of removed ground water at the treatment plant built for the IRA
- Discharge of treated ground water to a surface water drainage, to the Base wastewater treatment plant, or by underground injection

OU-5

The selected alternative, Covering, includes the following major components:

- Placing a soil cover capable of sustaining perennial vegetation over the landfill area
- Institutional controls for the landfill area
- Long-term ground-water monitoring; and, long-term maintenance of soil cover

OU-6

The selected alternative, capping, includes the following major components:

- Placing a soil cover capable of sustaining perennial vegetation over the landfill area
- Modification of storm-water discharge point and drainage

- Institutional controls for the landfill area
- Long-term ground-water, surface-water, and sediment monitoring
- Long-term maintenance of soil cover

OU-7

The selected alternative for soils, institutional controls, includes the following major components:

- Institutional controls for future land use
- An extensive records search will be performed that may provide additional information relating to the burial trenches. A removal action might be used to address waste within the trenches if the weight of evidence from this record search combined with previous information identifies and warrants this type of remedial activity.

The selected alternative for ground water, institutional controls with additional monitoring, includes the following major components:•

- Institutional controls for ground water use
- Implementing a long-term ground-water monitoring and maintenance program

OU-8

OU-8 is divided into two distinct areas of investigation, Area 1 and Area 2. Area 1 is the area surrounding the actual EOD Area itself. Area 2 consists of the Debris Burial Area where waste from the EOD Area was buried. Alternatives for remedial action were evaluated separately for each area.

The selected alternative for Area 1 (EOD Area), vegetative soil cover and institutional controls, includes the following major components:

- Constructing an earth cover over a portion of the EOD Area
- Institutional controls for the EOD Area
- Long-term sediment sampling
- Long-term maintenance of earth cover

The selected alternative for Area 2 (Debris Burial Area), vegetative soil cover and institutional controls, includes the following major components:

- Constructing an earth cover over the Debris Burial Area
- Institutional controls for the Debris Burial Area and long-term maintenance of earth cover

OU-9

Based on the findings of the risk assessment, unacceptable risk to human health and the environment does not exist and remediation is not warranted for OU-9. Presently, a corrective action plan (under the State petroleum release program) is underway to address fuel components in the ground water in the southern

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portion of OU-9. Remediation of other areas where soil and/or ground water is contaminated by petroleum will be performed in compliance with State of South Dakota regulations.

OU-10

Based on the findings of no unacceptable risk to human health and the environment, remediation is not warranted for OU-10. Remediation of soils and/or ground water contaminated by petroleum will be performed under the State of South Dakota regulations.

OU-11

OU-11 has been divided into two areas. Area 1 is the South Docks Study Area, and Area 2 is the BG04 and BG05 Study Areas.

The selected alternative for Area 1, Ground-Water Extraction and Treatment with Containment, includes the following major components:

- Ground-water removal and treatment in the South Docks Study Area
- On-base containment of ground water containing contaminants at concentrations above Federal Maximum Contaminant Levels (MCLs) and State of South Dakota Ground-Water Quality Standards
- Institutional controls and long-term monitoring

The selected alternative for Area 2, Ground-Water Containment/Extraction and Treatment, includes the following major components:

- Ground-water removal and treatment along the northeast base boundary and at areas of high contaminant concentrations on-base
- Natural attenuation of low contaminant concentration areas, primarily off-base
- Alternative water supply to residents affected by contamination coming from the base
- Additional investigation to determine the eastern extent of off-base ground-water contamination
- Institutional controls and long-term monitoring

OU-12

The selected alternative, capping, includes the following major components:

- Placing a soil cover capable of sustaining perennial vegetation over the hardfill area
- Pre-design study to identify the source of methane and examine the need for hardfill gas control measures, and evaluate the need for erosion control measures along the stream adjacent to the hardfill areas
- Institutional controls for the hardfill areas
- Long-term monitoring

- Long-term maintenance of soil cover

Implementation of the remedies will reduce the future risk to human health and the environment to acceptable levels.

CHECKLIST

	Access Allowed	Excavation Allowed	Contamination	Remarks
OU-1	No	No	Groundwater/Soil	Call 5-2677 for access
OU-2	No	No	Groundwater/Soil	Call 5-2677 for access
OU-3	No	No	Groundwater/Soil	Call 5-2677 for access
OU-4	No	No	Groundwater/Soil	Call 5-2677 for access
OU-5	No	No	Soil	Call 5-2677 for access
OU-6	No	No	Soil	Call 5-2677 for access
OU-7	Yes	With Approval	Groundwater	Call 5-2677 for access
OU-8	No	No	Groundwater/Soil	Call 5-2677 for access
OU-9	Yes	With Approval	Groundwater/Soil	Call 5-2677 for access
OU-10	Yes	With Approval	Groundwater/Soil	Call 5-2677 for access
OU-11	Yes	With Approval	Groundwater	Call 5-2677 for access
OU-12	No	No	Soil	Call 5-2677 for access

October 1999

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ATCH 2

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DEPARTMENT OF THE AIR FORCE

AIR COMBAT COMMAND CIVIL ENGINEER SQUADRON
LANGLEY AIR FORCE BASE, VIRGINIA

06 DEC 1996

MEMORANDUM FOR DISTRIBUTION

FROM: HQ ACC/CEV
129 Andrews Street Ste 102
Langley AFB VA 23665

SUBJECT: Construction Waiver Requests for Installation Restoration Program (IRP) Sites

1. Reference: Air Force Instruction (AFI) 32-1021, 12 May 94, Planning and Programming of Facility Construction Projects.

2. This letter is to provide clarification of the ACC policy regarding construction on IRP sites. Even though AFI 32-1021 primarily addresses MILCON projects, the waiver described below should be used for any type of construction activity on or near IRP sites. The waiver process is designed to ensure risks to human health and the environment are considered before the start of construction projects.

3. A problem developed recently when a request for waiver was approved for an FY96 MILCON project based on the assumption the site should be remediated before the actual start of construction. This conditional approval gave the construction agency the go-ahead to continue design and contracting actions. Unfortunately, the MILCON project was moved forward to FY95, while the IRP project slipped a year. The result was the MILCON was ready to go out on the street for bids and the IRP cleanup was not under contract (in fact, the Remedial Investigation/Feasibility Study (RI/FS) had not started).

4. In another recent instance, a chain link fence was constructed across an IRP site. The fence must now be removed to accomplish an IRP remedial action. The project was not coordinated through the environmental flight.

5. Written waiver for construction requests on an IRP site should be sent from the Base Civil Engineer to HQ ACC/CEV, copy ACC CES/ES. Waiver requests should be submitted for closed IRP sites as well as active sites. The waiver request should include the following information:

a. A description of the proposed construction.

b. The IRP site number.

c. The expected impact of the proposed construction on the site.

d. Information regarding whether or not regulatory agencies have been contacted regarding the proposed construction.

e. A description of the plan to dispose of soil or groundwater which is to be removed from the site during construction.

f. A description of potential conflicts between the project and ongoing or planned IRP projects at the site. The request should explain what will be done if unexpected contamination is found.

6. Once the request for waiver is reviewed by HQ ACC/CEV, it will be either approved, disapproved or returned for additional information. The HQ ACC/CEV response will include an explanation of the action taken. If additional information is required, a request will be issued from ACC CES/ESV. Most waiver requests are approved and should be submitted early enough in the programming process to avoid delays in construction activities. Coordination with the Restoration Element at the installation should help avoid this type of siting issue.

7. Installations should use discretion in their application for waivers by keeping in mind that the goal of the waiver process is to control reasonably foreseeable impacts to human health or the environment. Construction activities on an IRP site which implement the site remediation as part of the IRP do not require a waiver (e.g. installation of wells, piping, pump-houses, etc.) In addition, minor activities on IRP sites which can be demonstrated to have negligible risk and will not otherwise interfere with IRP activities at the site may not need a waiver. Sound technical judgment should be exercised by the installation in identifying such cases.

8. Please direct questions to your ACC IRP Program Manager or Mr. Norman Guenther, ACC CES/ESVE at DSN 574-3680.

MARCOS J. MADRID, Colonel, USAF
Chief, Environmental Programs

Attachment:
Distribution list

cc:
HQ ACC/CEPD/CEPH/CEPR
ACC CES/ESPE/ESPW

OU-8 ACTION PLAN

1. **Strategy:** To restore the Operable Unit (OU) 8 site quickly to its original configuration under the approval of South Dakota Department of Environment and Natural Resources and the Environmental Protection Agency (EPA), ensuring safety to the site and personnel. To implement a program that will ensure all Restoration sites on base comply with the Record of Decision (ROD) as signed by the Wing Commander.

2. **Status:** On 26 August 99, 16 pieces of dynamite that were exuding nitroglycerin were destroyed on the old Explosives Ordnance Disposal (EOD) Range, creating 2 pits approximately 8 feet in diameter, and 3 feet deep. Later, two more emergency detonations occurred, on 26 Aug 99 to destroy additional leaking dynamite, and on 28 Sep 99, a ground burst projectile simulator and an M-18 smoke grenade that dud fired during a training exercise. The detonations damaged the landfill cap that is part of OU8. Late on 5 Oct 99, CEV identified the craters and immediately began notifications up the chain of command. ACC, EPA and state officials were notified on 6 Oct 99.

3. **Action Items:**

Repair Site

3.1 Obtain funding and contract to restore site
3.2 Develop sampling plan and repair plan
3.3 Collect samples of site and restore to original design condition

Improvement Process

3.4 Construct fence around OU-8 boundary, limiting all future access
  3.4.1 Survey fence location
  3.4.2 Obtain digging permit
  3.4.3 Submit work request
  3.4.4 Install fence
3.5 Install signs on OU8 fence similar to those on other OU's that state, "Closed, No Access, Contact 385-2680"
3.6 Preidentify a location on base for emergency disposal of ordnance
3.7 Update EOD Team Chief Checklist to include notification requirements and a map of approved disposal area
3.8 Update CEV Spill Binder to include checklist that identifies notification requirements and a map of approved disposal area
3.9 Redistribute copy of standing order
  3.9.1 Redistribute original copy of standing order with cover letter by Col P.
  3.9.2 Redistribute standing order with updated policy letters with every new WG/CC
3.10 Provide training to all 28 CES Flight Chiefs, 28 CES/CEO Superintendents, and 28 CES heavy equipment operators
3.11 Provide awareness training to all "On-Scene Commanders"

ATCH 4